

Work Order ID 133615 - 1

133615

Page 1

Thursday, June 11, 2015 2:43:22 PM

Item ID: D5203-045 Accept *N9000040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Strut Weldment
 Start Date: 6/11/15 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 6/12/15 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: [Signature] Date: 15-6-10 Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D5203	A

110 Weld per dwg A/R S.S. rod Batch: 1127803 0.00

110

Large Fab

Large Fab

Memo

Weld stud to strut as per dwg

GRIND WELD FLUSH

SCRAP

1 @ 15-9-23

120 QC9- Inspect visual per QSI004- Fusion Welds 0.00

120

QC

Quality Control

Memo

① 15-09-23

DAS
9
9-89

130 QC5- Inspect part completeness to step on W/O 0.00

130

QC

Quality Control

Memo

① 15-09-23

9
9-89

P.T.O.

.OT.9

94892

DQA:

Date:

15/10/19



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

15/10/08

Work Order update only ☐

Work Order: <u>133615</u>	DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. <u>DS203-045</u>	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	
NCR No. <u>15-5374</u>	Scrap ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	
	Suspected Unapproved ☐	Large Fab ☒	Composite ☐	Supplier ☐		

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data	15-09-28	110	1	while welding tread was strip	PD 1509.30	scrap/destroy no replace	DAS 38 9-89 SEP 30 2019	DAS 38 9-89 SEP 20 2019	PD 1509.30
Equip/Tooling									
Handling/Pre									
Material									
Operator ☒				L.C. operator					
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General		
☐ Bending	☐ Bend	☐ Folio/Program	☐ Outside Dimensions
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware	☐ Part Incorrect
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified	☐ Part Lost/Missing
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear	☐ Part Moved
☐ Crushing	☐ Countersink	☐ Misaligned/off center	☒ Positioned Wrong
☐ Heat Treat	☐ Cut Too Short	☐ Mislabelled	☐ Power Loss/Surge
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread	☐ Pressure/Forced
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set	☐ Set-up
☐ Turning Sequence	☐ Finish	☐ Out of Calibration	☐ Temperature/Cure
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence	☒ Weld
			☐ Wrong Stock Pulled
			☐ Other

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Accept

Setup Start *NS1*

Stop *NS2*

1

Cust Item ID:

Start Date: 6/11/15 **Start Qty:** 1.00

Required Date: 6/12/15 **Req'd Qty:** 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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140

0.00

140

0.00

Small Fab

Memo

Small Fab

Assemble nut and clevis as per dwg (HAND TIGHTEN NUT) use anti-seize on thread.

A/R ANTI-SEIZE BATCH: _____

150

QC5- Inspect part completeness to step on W/O	0.00
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0.00

150

0.00

QC

Memo

Quality Control

160

Identify as per dwg & Stock Location:_____ 0.00

0.00

160

0.00

Packaging

Memo

Packaging

Work Order ID 133615

133615

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Thursday, June 11, 2015 2:43:22 PM

Item ID: D5203-045 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Strut Weldment
Start Date: 6/11/15 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 6/12/15 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.00							
Quality Control									

SH 20150930

Picklist Print

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Page 1

Work Order ID: 133615

133615

Parent Item: D5203-045

D5203-045

Parent Item Name: Strut Weldment

Start Date: 6/11/15

Required Date: 6/12/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 15.01.08 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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AN665-34R		Purchased	No				Each	26.0000		2			
AN665-34R									**				
Clevis													

Location	Loc Qty	Loc Code
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ST330	26	M133031
M130388	8	
M132317	18	
	Each	4.0000

D4794-3		Manufactured	No				Each	4.0000		2			
D4794-3									**				
Stud													

Location	Loc Qty	Loc Code
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WA001	4	
129380	4	
	Each	0.0000

D5203-1		Manufactured	No				Each	0.0000		1			
D5203-1									**				
Strut													

NAS509-4C		Purchased	No				Each	17.0000		2			
NAS509-4C									**				
NUT													

Location	Loc Qty	Loc Code
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ST262	17	
M130466	7	
M131584	10	

DQA: _____ Date: _____

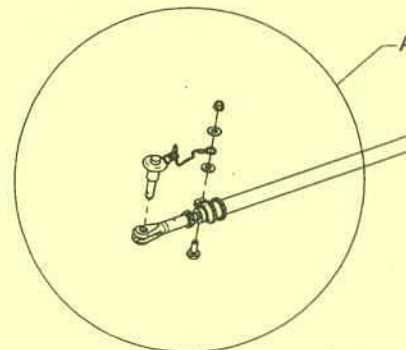
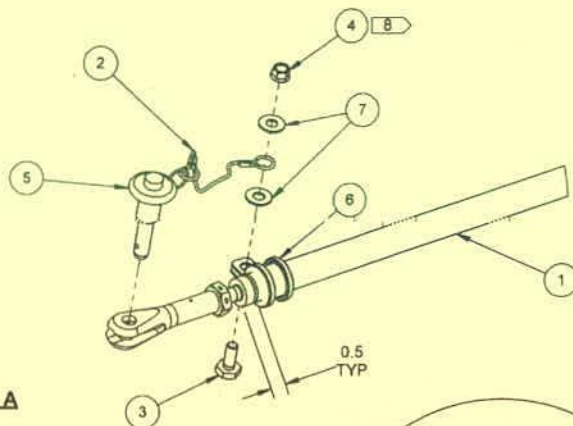
**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DETAIL A



D5203-041 STRUT ASSEMBLY

ITEM	QTY	P/N	DESCRIPTION
	X	D5203-041	STRUT ASSEMBLY
1	1	D5203-045	STRUT WELDMENT
2	2	D2690-6	LANYARD ASSEMBLY
3	2	AN3C3A	BOLT
4	2	MS21043-3	NUT, SELF-LOCKING
5	2	MS17984-C405	PIN, QUICK RELEASE (NASM17984-C405)
6	2	MS21919WCF8	CLAMP
7	4	NAS1149C0332R	WASHER

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.95 lbs
- 8) TORQUE NUTS TO 20-25 in-lb

RELEASED

2015 JAN 29

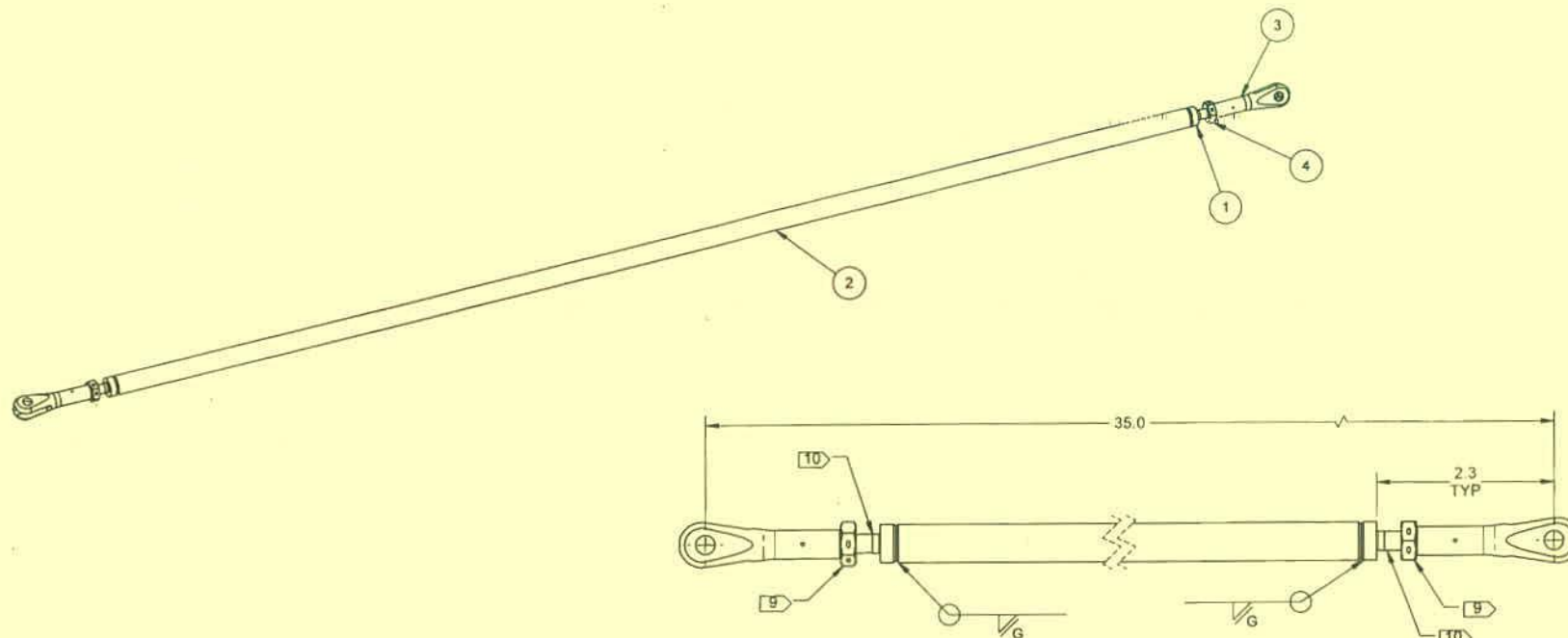
ECN 15-508 49

A	NEW ISSUE	RF	14.12.19
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. A
MFG. APPR.	DD	D5203	SHEET 1 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STRUT ASSEMBLY	NTS
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APPROVED

15-6-10

ITEM	QTY -045	P/N	DESCRIPTION
	X	D5203-045	STRUT WELDMENT
1	2	D4794-3	STUD
2	1	D5203-1	STRUT
3	2	AN665-34R	THREADED CLEVIS
4	2	NAS509-4C	NUT, JAM



D5203-045 STRUT WELDMENT

RELEASED

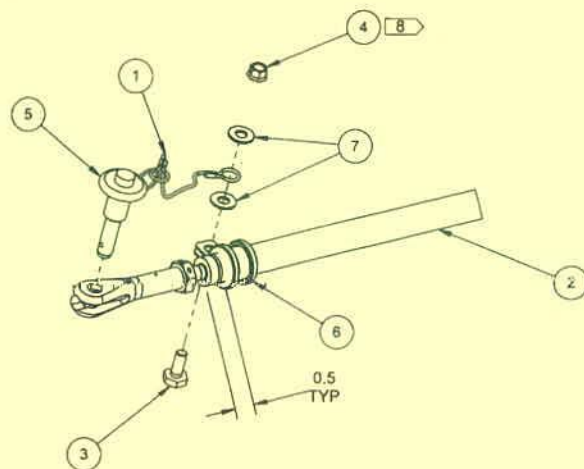
2015 JAN 29

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.82 lbs
- 8) WELD PER DART QSI 004
- 9) HAND TIGHTEN NAS509-4C NUT
- 10) USE TECTYL 502C CLASS I, MIL-PRF-16173E GRADE 2 OR EQUIVALENT ANTI-SEIZE COMPOUND ON THREAD

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
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MFG. APPR.	DD	D5203	SHEET 2 OF 6
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DETAIL B

D5203-043 STRUT ASSEMBLY

ITEM	QTY -043	P/N	DESCRIPTION
	X	D5203-043	STRUT ASSEMBLY
1	2	D2690-6	LANYARD ASSEMBLY
2	1	D5203-047	STRUT WELDMENT
3	2	AN3C3A	BOLT
4	2	MS21043-3	NUT, SELF-LOCKING
5	2	MS17984-C405	PIN, QUICK RELEASE (NASM17984-C405)
6	2	MS21919WCF8	CLAMP
7	4	NAS1149C0332R	WASHER

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 1.19 lbs
- 8) TORQUE NUTS TO 20-25 in-lb

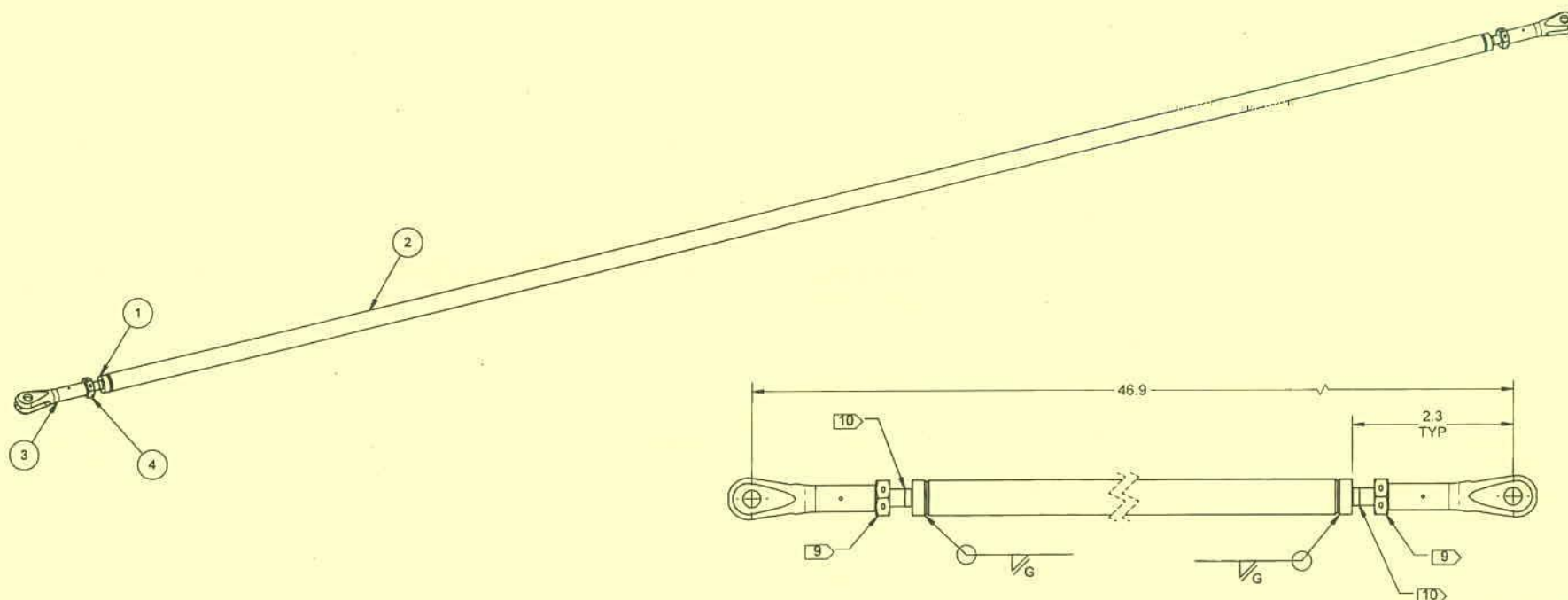
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MFG. APPR.	DD		SHEET 3 OF 6
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DE APPR.	DB		
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RELEASED

2015 JAN 29 *up*

ITEM	QTY -047	P/N	DESCRIPTION
	X	D5203-047	STRUT WELDMENT
1	2	D4794-3	STUD
2	1	D5203-3	STRUT
3	2	AN665-34R	THREADED CLEVIS
4	2	NAS509-4C	NUT, JAM



D5203-047 STRUT WELDMENT

RELEASED

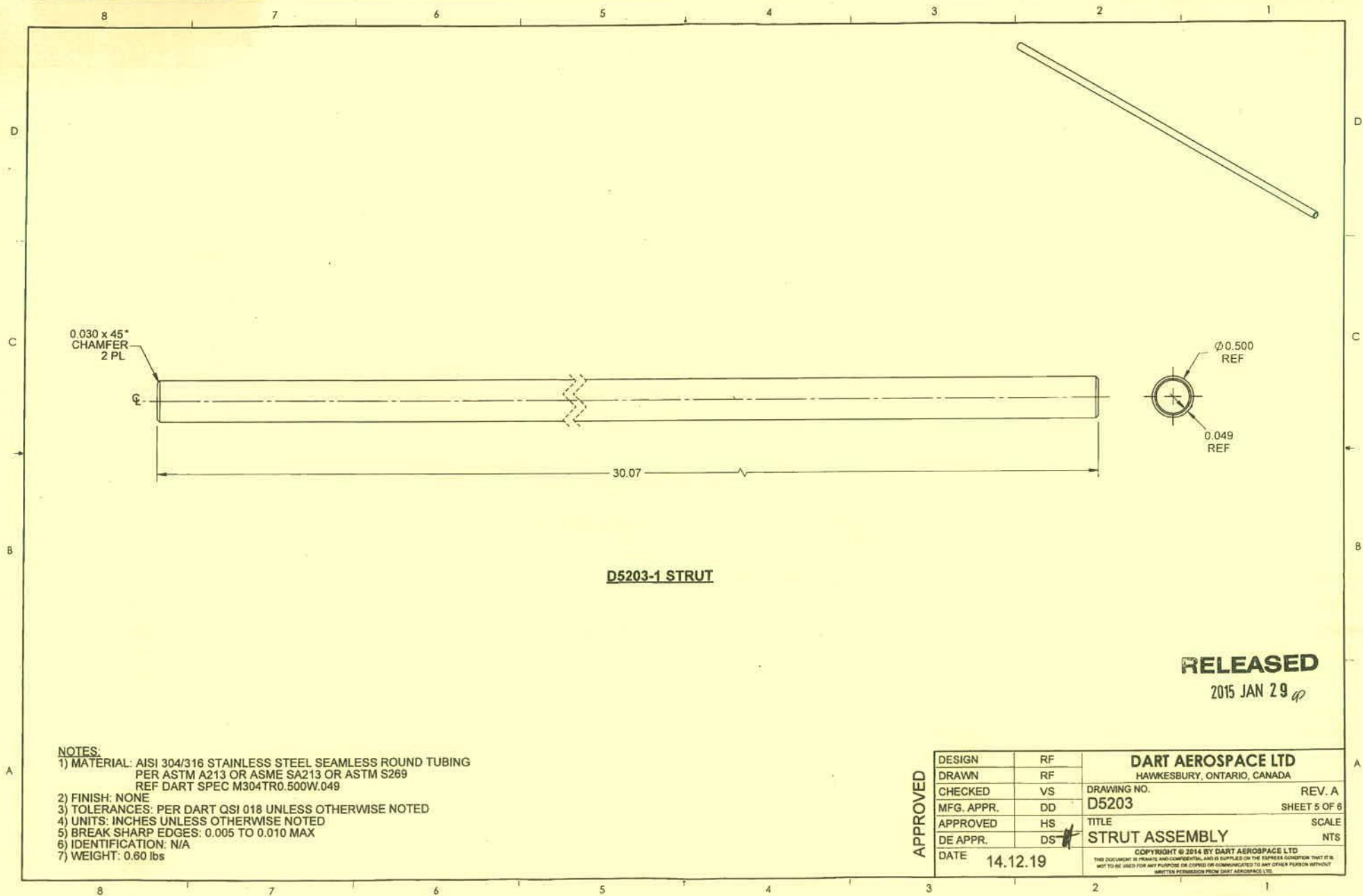
2015 JAN 29 *qr*

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.06 lbs
- 8) WELD PER DART QSI 004
- 9) HAND TIGHTEN NAS509-4C NUT
- 10) USE TECTYL 502C CLASS I, MIL-PRF-16173E GRADE 2 OR EQUIVALENT ANTI-SEIZE COMPOUND ON THREAD

APPROVED

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	VS	DRAWING NO.	REV. A
MFG. APPR.	DD	D5203	SHEET 4 OF 6
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D5203-1 STRUT

RELEASED

2015 JAN 29 *ap*

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SEAMLESS ROUND TUBING
PER ASTM A213 OR ASME SA213 OR ASTM S269
REF DART SPEC M304TR0.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.60 lbs

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO. D5203	REV. A
MFG. APPR.	DD		SHEET 5 OF 6
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0.030 x 45°
CHAMFER
2 PL

Ø

42.00

Ø 0.500
REF

0.049
REF

D5203-3 STRUT

RELEASED

2015 JAN 29 47

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SEAMLESS ROUND TUBING
PER ASTM A213 OR ASME SA213 OR ASTM S269
REF DART SPEC M304TR0.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.84 lbs

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO. D5203	REV. A
MFG. APPR.	DD		SHEET 6 OF 6
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